

**Project No. 08S223**  
**Annual Report - December 1996**  
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**Sequoia and Kings Canyon National Parks**  
**Cooperative Plant Materials Agreement**

## **Annual Report - 1996**

### **Sequoia and Kings Canyon**

#### **I. Introduction**

This progress report covers the 1996 activities conducted by the Upper Colorado Environmental Plant Center, Meeker, Colorado, for Sequoia and Kings Canyon National Parks Cooperative Plant Materials Agreement. The agreement was amended in 1995. Seed was collected by the park in 1996. Seeds received in 1995 in large enough quantities were tested in 1996 (See Colorado Seed Laboratory Reports).

Snow fence was installed for certain plantings on November 21, 1996, in an attempt to simulate conditions in the park and to see what effect this might have on survival of the species. The following snow fences were installed on the species listed.

LOCATION	SPECIES AND SIZE OF PLANTING	APPROX. LENGTH
Giant Forest	California needle grass (0.06 Ac)	45 feet
Giant Forest	Bearded melicgrass (0.03 Ac)	33 feet
Giant Forest	Orcutt's brome (0.19 Ac)	27 feet
Giant Forest	Blue Wildrye (0.15 Ac)	35 feet
Wuksachi Village	Sticky Cinquefoil (0.34 Ac)	50 feet

#### **II. Contract species (Wuksachi Village)**

Common Name	Scientific Name	Accession No.
<b>Grasses</b>		
Blue wildrye	<u>Elymus glaucus</u>	9070859
Orcutt's brome	<u>Bromus orcuttianus</u>	9070855
California needlegrass	<u>Stipa californica</u>	9070860
Bearded melicgrass	<u>Melica aristata</u>	9070858
<b>Forbs</b>		
Sticky cinquefoil	<u>Potentilla glandulosa</u>	9070856
Naked buckwheat	<u>Eriogonum nudum</u>	9070857

### **III. Seed collection and conditioning information**

Seed was received from the park in December 1996. These materials are listed in Table 1. Seeds received in 1995 in large enough quantities were tested in 1996 (See Colorado Seed Laboratory Reports).

### **IV. Seed Production**

Six seed production fields were planted in 1995. Seeds were planted at a rate of about 30 seeds per foot of row in rows spaced 3 feet apart. Plants were grown in the greenhouse for 4 species of grasses. These plants were planted in the seed fields as tublings. No seed was harvested from these fields in 1995.

In 1996 additional seed fields were seeded and live plants that were grown in the greenhouse were planted in some fields. The following is a review of what has been done for each location (Wuksachi Village or Giant Forest) species by species.

#### **Grasses**

1. Blue wildrye (Wuksachi Village) - 0.62 acre was planted on April 14, 1995 - good stand on August 30, 1995 - very light seed heads, no harvest in 1995 - 700 tublings were planted on August 8, 1995 - no additional planting in 1996 - seed harvested July 16 - 30, 1996 - 54.0 lbs. clean seed.

2. Blue wildrye - 9070923 - (Giant Forest) - 0.15 acre planted May 31, 1996 - seeded at rate of about 30 seeds per foot of row - moderately good stand on August 20, 1996 - no seed harvest in 1996.

3. Orcutt's brome (Wuksachi Village) - 0.64 acre was planted on April 14, 1995 - good stand on August 30, 1995 - light to moderated seed heads, no harvest in 1995 - 600 tublings were planted on August 8, 1995 - planting mostly dead spring of 1996 - seed harvested July 12, 1996, 8.2 lbs. clean seed - 4 row interseeded on west side of field August 7, 1996.

4. Orcutt's brome - 9070924 - (Giant Forest) - 0.19 acre planted May 30, 1996 - seeded at rate of about 30 seeds per foot of row - stand spotty on August 20, 1996 - no seed harvested in 1996.

5. California needlegrass (Wuksachi village) - 0.12 acre was planted on June 6, 1995 - poor stand on August 30, 1995, only few seed heads - 100 tublings were planted on September 5, 1995 - 60 plants from greenhouse planted July 3, 1996 - hand harvested seed July 3-22, 1996, 12.0 grams clean seed - 3 rows interseeded August 8, 1996 - poor stand August 20, 1996.

6. California needlegrass - 9070925 - (Giant Forest) - 0.06 acre planted May 31, 1996 - seeded at rate of about 30 seed per foot of row - planted approximately 60 plants from greenhouse on July 3, 1996 - poor stand August 20, 1996 - no seed harvest 1996.

7. Bearded melicgrass (Wuksachi Village) - 0.20 acre planted on June 6, 1995 - fair stand on August 30, 1995 plants are small - 1300 tublings were planted on August 9, 1995 - planting mostly dead spring 1996 - planted approximately 100 plants from greenhouse July 26, 1996 planted 0.05 acre from seed on west side of field August

7, 1996 - see no new plants August 20, 1996 - no harvest 1996.

8. Bearded melicgrass - 9070926 - (Giant Forest) - 0.03 acre planted May 31, 1996 - seeded at rate of about 30 seeds per foot of row - planted 330 plants from greenhouse July 3, 1996 - poor stand August 20, 1996, plants from greenhouse look ok - no seed harvest 1996.

### **Forbs**

1. Sticky cinquefoil (Wuksachi Village) - 0.34 acre was planted on May 26, 1995 - no plants were found on August 30, 1995 - no plants spring 1996 - planted approximately 1200 tublings from greenhouse May 15, 1996 - seeded 0.12 acre August 7, 1996 - seed hand collected July 25 to August 15, 1996, 212.0 grams clean seed - no plants from seed August 20, 1996 - plants from greenhouse look OK.

2. Naked buckwheat (Wuksachi Village) - 0.25 acre was planted on May 26, 1995 - good stand on August 30, 1995, light to moderate flowering - plants dead spring 1996 - few plants from late germination in 1996, left in field to see if they survive to 1997.

3. Pink stickseed 9070927 - (Giant Forest) - seed cleaned 192 grams not planted on center due to weedy appearance - attempted germination tests in greenhouse with only very marginal success in an attempt to produce plants through greenhouse.

### **V. Summary**

1. Had two meetings (March 12, and June 6, 1996) to determine if materials should be kept separate for Wuksachi Village and Giant Forest and to discuss loss of seed fields over winter of 1995 - 96. Fields were kept separate for Wuksachi Village and Giant Forest (See memorandum from Wendell Hassell).

2. Seeds received in large enough quantities in 1995 were tested in 1996 at Colorado Seed Laboratory.

3. Seed was harvested from 4 contract species in 1996.

4. Seed was used to plant or replant fields for 8 contract species in 1996.

5. Plants from greenhouse were planted in seed fields for 5 contract species in 1996.

6. 3 contract species had plants alive in 1995 that were dead or mostly dead in 1996.

7. Pink stickseed was tested for germination in greenhouse in 1996 with marginal success.

8. Snow fence was installed for 5 species to simulate park conditions and to see effects on species survival.

9. Seed was received from the park for 11 species in December, 1996.

**Table 1. Seed Collected by the park in 1996.**

<b>Location</b>	<b>Scientific Name</b>	<b>Common Name</b>	<b>Cleaned Seed</b>
<b>Grasses and Grass like</b>			
Giant Forest	<u>Bromus Orcuttianus</u>	Orcutt's Brome	7.15 lbs.
Giant Forest	<u>Carex spp.</u>	Sedge	15.00 gms.
Giant Forest	<u>Elymus glaucus</u>	Blue Wildrye	4.22 lbs.
Giant Forest	<u>Melica aristata</u>	Onion grass	2.03 lbs.
Giant Forest	<u>Stipa californica</u>	California Needlegrass	1.20 lbs.
Wuksachi Village	<u>Stipa californica</u>	California Needlegrass	7.00 gms.
<b>Forbs</b>			
Giant Forest	<u>Arabis spp.</u>	Rock cress	120.00 gms.
Giant Forest	<u>Draperia systyla</u>	Draperia	235.00 gms.
Giant Forest	<u>Eriogonum nudum</u>	Naked buckwheat	100.00 gms.
Giant Forest	<u>Linanthus montanus</u>	Mustang clover	425.00 gms.
Giant Forest	<u>Phacelia spp.</u>	Phacelia	2.30 lbs.
Giant Forest	<u>Potentilla glandulosa</u>	Sticky Cinquefoil	1.90 lbs.